

# INTERMEDIATE ACTIVITY: Crunch the Numbers--Energy in the U.S.

## UNITED STATES OVERVIEW

|                                   |                    |
|-----------------------------------|--------------------|
| <b>World Population:</b>          | 6.1 billion people |
| <b>U.S. Population:</b>           | 281 million people |
| <b>People per Vehicle (U.S.):</b> | 1.3                |

## ENERGY OVERVIEW—COAL

|                               |                                 |
|-------------------------------|---------------------------------|
| <b>World Coal Reserves:</b>   | 1,083 billion short tons        |
| <b>U.S. Coal Reserves:</b>    | 274 billion short tons          |
| <b>U.S. Coal Production:</b>  | 1,121 million short tons (Mmst) |
| <b>U.S. Coal Consumption:</b> | 1,060 Mmst                      |
| <b>U.S. Coal Exports:</b>     | 49 Mmst                         |



## ENERGY OVERVIEW—NATURAL GAS

|  |                                 |
|--|---------------------------------|
| <b>World Natural Gas Reserves:</b>     | 5,450 trillion cubic feet (Tcf) |
| <b>U.S. Natural Gas Reserves:</b>      | 177.4 Tcf                       |
| <b>U.S. Natural Gas Production:</b>    | 19.5 Tcf                        |
| <b>U.S. Natural Gas Consumption:</b>   | 22.4 Tcf                        |
| <b>U.S. Natural Gas Imports (net):</b> | 3.65 Tcf                        |

## ENERGY OVERVIEW—PETROLEUM, CRUDE OIL, PRODUCTS

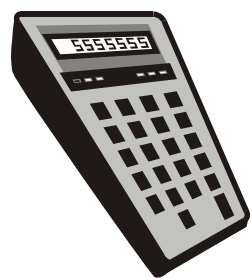
|                                      |                              |
|--------------------------------------|------------------------------|
| <b>World Crude Oil Reserves:</b>     | 1004.1 billion barrels (bbl) |
| <b>U.S. Crude Oil Reserves:</b>      | 22.0 billion bbl             |
| <b>U.S. Crude Oil Production:</b>    | 5.8 million bbl/day          |
| <b>U.S. Petroleum Consumption:</b>   | 19.6 million bbl/day         |
| <b>U.S. Petroleum Imports (net):</b> | 10.9 million bbl/day         |
| <b>U.S. Petroleum Stocks:</b>        | 1.57 billion bbl             |

## ENERGY OVERVIEW—ELECTRICITY

|                                     |   |
|-------------------------------------|---|
| <b>U.S. Utility Generation:</b>     | 2,630 billion kilowatt-hours (bkWh)                                     |
| <b>U.S. Non-utility Generation:</b> | 1,089 bkWh  |
| <b>U.S. Generation by Fuel:</b>     | Coal 51%, Nuclear 21%, Natural Gas 17%, Hydropower 6%, Oil 3%, Other 2% |

## ENERGY OVERVIEW—CONSUMPTION

|                                  |  |
|----------------------------------|--|
| <b>World Energy Consumption:</b> | 397 quadrillion Btu (quad) ( <i>1 Btu is about the amount of energy in one wooden match.</i> ) |
| <b>U.S. Energy Consumption:</b>  | 97.3 quad  |
| <b>Consumption by Sector:</b>    | Industrial (34%), Transportation (27%), Residential (21%), Commercial (18%)                    |
| <b>Consumption by Fuel:</b>      | Oil (39%), Natural Gas (24%), Coal (23%), Nuclear (8%), Renewables (6%)                        |



## CRUNCH THE NUMBERS—QUESTIONS TO ANSWER and GRAPHS TO MAKE

1. What percentage of the world's population lives in the United States?
2. How many passenger vehicles are there in the U.S.?
3. What percentage of world oil reserves does the U.S. have?
4. If the U.S. continues to produce 5.8 million bbl/d of oil, how long will the U.S. oil reserves last?
5. What percentage of U.S. petroleum consumption is supplied by imports?
6. If all production and imports stopped, how long would the U.S. petroleum stocks last?
7. What percentage of world natural gas reserves does the U.S. have?
8. What percentage of U.S. natural gas consumption is supplied by imports?
9. If the U.S. continues to produce 19.5 Tcf of natural gas a year, how long will U.S. reserves last?
10. What percentage of world coal reserves does the U.S. have?
11. If the U.S. continues to produce 1,121 Mmst of coal a year, how long will U.S. reserves last?
12. What percentage of U.S. coal is exported to other countries?
13. What is the total electricity generation in the U.S.? What percentage is generated by utilities?
14. Make a bar graph of the fuels used to generate electricity.
15. What percentage of world energy does the U.S. consume each year?
16. How does U.S. energy consumption compare to U.S. population?
17. Make a pie chart of U.S. energy consumption by sector of the economy.
18. Make a pie chart of U.S. energy consumption by fuel.

The U.S. Department of Energy—Energy Information Administration has profiles for most countries with the above energy information at [www.eia.doe.gov/emeu/cabs](http://www.eia.doe.gov/emeu/cabs)